

### REMARKS

Claims 2, 16-18, 24, 25, 32 and 34 have been canceled. Claims 1, 3, 4, 15, 19, 20 and 23 have been amended. Thus, claims 1, 3-15, 19-23, 26-31, 33 and 35 remain presented for examination. Support for the amendment to claim 1 may be found in original claim 2 and in the specification at page 5, paragraph [0025]. Support for the amendment to claims 3, 4, 19 and 20 may be found in the well known identities of the TRITON<sup>TM</sup> series of non-ionic surfactants from the DOW<sup>®</sup> chemical company, as evidenced by the attached product information sheets from [www.dow.com](http://www.dow.com) (Appendix A). It is well known that the TRITON<sup>TM</sup> series of detergents refers to octylphenol ethoxylates having the same chemical structure, but with different “x” values (see structure on product information sheet). The remainder of the claim amendments correct claim dependencies. Thus, no new matter has been added.

Reconsideration and withdrawal of the present rejections in view of the amendments and comments presented herein are respectfully requested.

#### Information Disclosure Statement

The Examiner states that the information disclosure statement filed 2/23/2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the abstracts of the Chinese patent documents were listed under “foreign patent documents” rather than “other documents.” Enclosed herewith is a supplemental IDS listing these abstracts under the proper section of the PTO/SB/08 form. Applicants respectfully request that the Examiner consider these references and initial the appropriate boxes on the form.

#### Objections to the specification

The Examiner objected to the use of the trademark TRITON, stating that it should be capitalized wherever it appears and be accompanied by the generic terminology. The specification has been amended to capitalize all occurrences of the trademark “Triton”, to include the “TM” designation, and to provide the generic terminology.

In view of these amendments, Applicants respectfully request reconsideration and withdrawal of the objections to the specification.

Rejections under 35 U.S.C. §112, second paragraph

Claims 3-6, 9, 10, 12, 13, 18-22, 25-30, 33 and 35 were rejected as being indefinite based on recitation of the trademark TRITON. The Examiner alleges that this renders the claim scope indefinite since the trademark cannot be used properly to identify any such material or product, and is only used to identify the source of goods and not the goods themselves.

All of the claims which recite Triton have been amended to include TRITON in capital letters, to include the "TM" designation, and to include the generic terminology. As mentioned at the beginning of the "REMARKS" section, and as evidenced by the enclosed TRITON<sup>TM</sup> product information sheets from the Dow Chemical Company, the TRITON<sup>TM</sup> series of detergents are well known entities with particular chemical structures. Thus, the recitation of these non-ionic surfactants does not render the claim indefinite since specific, defined compounds are being referred to. The recitation of TRITON<sup>TM</sup> does not identify a source of goods (Dow Chemical company), but instead refers to octylphenol ethoxylates having specific chemical structures.

According to MPEP §608.01(v)(I):

if the product to which the trademark refers is set forth in such language that its identity is clear, the examiners are authorized to permit the use of the trademark if it is distinguished from common descriptive nouns by capitalization. If the trademark has a fixed and definite meaning, it constitutes sufficient identification unless some physical or chemical characteristic of the article or material is involved in the invention. In that event, as also in those cases where the trademark has no fixed and definite meaning, identification by scientific or other explanatory language is necessary. *In re Gebauer-Fuelnegg*, 121 F.2d 505, 50 USPQ 125 (CCPA 1941)

In the present case, the recited TRITON<sup>TM</sup> series of non-ionic surfactants, including TRITON<sup>TM</sup> X-100, have fixed and definite meanings, and refer to products whose identities are clear. Thus, recitation of these trademarks in the present claims is proper.

In view of the amendments and comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

Rejection under 35 U.S.C. §102(b)

Claims 1, 11 and 14 were rejected as being anticipated by Stathatos et al. (*J. Sol-Gel Sci. Technology* 10:83-89, 1997). Claim 1 has been amended to incorporate the feature recited in canceled claim 2 (2, 4-diketone stabilizer compounds) which is not disclosed by Stathatos et al, and was not rejected under this section. Thus, claims 1, 11 and 14 cannot be anticipated by this reference.

In view of the claim amendment, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b).

Rejection under 35 U.S.C. §103(a)

Claims 1-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Stathatos et al. in view of Yamada et al. (US 5,897,958), Ogawa et al. (US 6,106,955) and Makita et al. (US 4,993,354). The Office Action states that the differences between the prior art and the claimed invention include that the prior art does not expressly disclose using a 2, 4-diketone, such as acetyl acetone, for killing bacteria and viruses. The Examiner alleges that the prior art amply suggests the claimed invention, since it discloses, *inter alia*, the use of acetylacetone and that titanium oxide films have antimicrobial and sterilizing activity, and that one of ordinary skill in the art would have been motivated to modify the prior art with the expectation that the coated surface would be effective against bacteria and viruses, and that acetyl acetone would improve ease of handling titanium oxide.

Claims 1 and 15 as amended recite adding a titanium alkoxide and a stabilizer comprising a 2, 4-diketone in an amount between 1 and 10% by volume of the reverse micelle solution to the reverse micelle solution and subjecting the titanium alkoxide to hydrolysis, wherein the stabilizer controls the rate of hydrolysis of the titanium alkoxide.

The only reference among the four references cited in the present rejection that mentions a 2, 4-diketone is Yamada et al. This reference discloses a photocatalyst composition comprising titanium oxide particles (first component) formed from a modified titanium oxide sol, and a metal oxide (second component) formed from a precursor compound of a metal oxide (Col. 6, lines 40-44). Yamada discloses that "the metal oxide of the second component preferably contains at least titanium oxide, which serves as a binder to fix the titanium oxide particles of the first component and to maintain the form..." (Col. 7, lines 19-22). The precursor compound to

Appl. No. : 10/688,504  
Filed : October 17, 2003

form a metal oxide is not particularly limited so long as it is a compound which will eventually be converted to a metal oxide...at least one member selected from the group consisting of a metal alkoxide, a metal acetylacetonate, a metal carboxylate, and a metal chelate, is preferred (Col. 7, lines 42-49).

Based on the disclosure of Yamada referenced above, either alone or in combination with any of the other three references, one of ordinary skill in the art would not have been motivated to include acetylacetone(ate) as a stabilizer to control the rate of hydrolysis of the titanium alkoxide as presently claimed, because the acetylacetone(ate) disclosed by Yamada functions as a nonspecific anion, the same as the alkoxide of carboxylate mentioned above. Therefore, the use of 2,4-diketones as a stabilizer to control the rate of hydrolysis of the titanium alkoxide is not obvious over the cited references.

In view of the amendments and comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

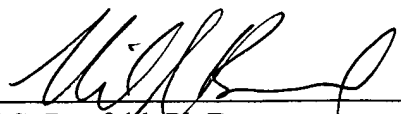
### CONCLUSION

Applicants submit that all claims are in condition for immediate allowance. Should there be any questions concerning this application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: June 23, 2006

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